

Serial No.: 10/564,102

Confirmation No.: 7195

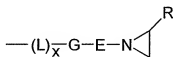
Filed: June 19, 2006

For: DENTAL COMPOSITION COMPRISING ETHYLENE IMINE COMPOUNDS AND NON-REACTIVE ACCELERATORS

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1. (Cancelled)
2. (Currently Amended) The composition of claim [[1]]28, further comprising at least one additive selected from the group consisting of modifiers, fillers, dyes, pigments, thixotropic agents, flow improvers, polymeric thickeners, surfactants, odorous substances, diluting agents and flavouring agents.
3. (Currently Amended) The composition according to claim [[1]]28, wherein component (a) comprises a structural element represented by the following formula:



wherein

R is a moiety selected from the group consisting of H, C₁-C₁₂ alkyl, C₂-C₁₂ alkenyl, C₂-C₁₂ alkynyl, C₇-C₁₅ alkylaryl, C₇-C₁₅ arylalkyl, and C₃-C₁₂ cycloalkyl, wherein any of the hydrogen atoms of the moiety may be replaced by Cl or F and up to five carbon atoms of the moiety may be replaced by atoms or group of atoms selected from O, CO, N, and S,

E is selected from the group consisting of C₁ - C₁₈ branched or unbranched hydrocarbon chains wherein up to five carbon atoms of the chain may be replaced by an atom or group of atoms selected from O, CO, N, and S,

G is a group selected from C(O)O, C(O)NR, C(O), C(O)C(O), C(O)(CH₂)_mC(O) where m is 1 to 10, C(S)NR, and CH₂,

L is O, S, or NR and

x is 0 or 1.

Serial No.: 10/564,102

Confirmation No.: 7195

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4-7. (Cancelled)

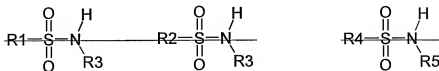
8. (Currently Amended) The composition of claim [[1]]28, wherein component (b) is ~~selected from the group consisting of benzene sulfonic acid N-butyl amide, p-toluene sulfonic acid N-ethyl amide, o-toluene sulfonic acid N-ethyl amide, benzene sulfonic acid amide and a mixture of o-/p-toluene sulfonic acid N-ethyl amide.~~
9. (Currently Amended) The composition of claim [[1]]28, wherein initiator (c) is selected from the group consisting of protonating or alkylating agents or wherein the initiator (c) generates protons or reactive alkylating agents in a chemical reaction.
10. (Currently Amended) The composition of claim [[1]]28 having a working time at 23 °C of equal or less than 3:30 min according to DIN EN ISO 4823:2000 or an oral setting time of equal or less than 3:30 min.
11. (Currently Amended) A kit comprising a base part and a catalyst part, wherein the base part comprises an N-alkyl aziridine polyether, the catalyst part comprises an initiator, and wherein a compound selected from the group consisting of p-toluene sulfonic acid N-ethyl amide, o-toluene sulfonic acid N-ethyl amide, and a mixture of o-/p- toluene sulfonic acid N-ethyl amide having an SO₂-NH group is present either in the base part or the catalyst part or in the base part and the catalyst part, ~~wherein the compound is represented by at least one of the following formulas:~~

Serial No.: 10/564,102

Confirmation No.: 7195

Filed: June 19, 2006

For: DENTAL COMPOSITION COMPRISING ETHYLENE IMINE COMPOUNDS AND NON-REACTIVE ACCELERATORS



wherein

R1 is a moiety selected from the group consisting of C₁-C₂₂ alkyl, C₃-C₂₂ alkenyl, C₃-C₂₂ alkynyl, C₇-C₂₂ arylalkyl and C₃-C₂₂ cycloalkyl, wherein one or more hydrogen atoms of the moiety may be replaced by Cl or F and/or up to five carbon atoms may be replaced by atoms or group of atoms selected from O, CO, N, and S;

R2 is a moiety selected from the group consisting of C₆-C₁₈ aryl, C₇-C₂₂ alkylaryl, C₂-C₂₂ cycloalkylaryl, C₇-C₂₂ alkenylaryl and C₇-C₂₂ alkynylaryl, wherein one or more hydrogen atoms of the moiety may be replaced by Cl or F and up to five carbon atoms may be replaced by atoms or group of atoms selected from O, CO, N, and S;

R3 is H, R1, or R2;

R4 is R1 or R2; and

R5 is a chemical linkage to a polymer; and

wherein the compound having an SO₂-NH group is present in an amount of about 0.01% by weight to about 6.0% by weight.

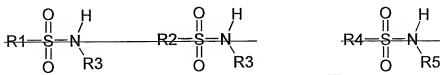
12. (Currently Amended) A kit comprising a base part and a catalyst part, wherein the base part comprises an N-alkyl aziridine polyether, the catalyst part comprises an initiator, and wherein a compound selected from the group consisting of p-toluene sulfonic acid N-ethyl amide, o-toluene sulfonic acid N-ethyl amide, and a mixture of o/p- toluene sulfonic acid N-ethyl amide having an SO₂-NH group is present in a further part in an amount of about 0.01% by weight to about 6.0% by weight and is not present in the catalyst part or in the base part, ~~wherein the compound is represented by at least one of the following formulas:~~

Serial No.: 10/564,102

Confirmation No.: 7195

Filed: June 19, 2006

For: DENTAL COMPOSITION COMPRISING ETHYLENE IMINE COMPOUNDS AND NON-REACTIVE ACCELERATORS



wherein

R1 is a moiety selected from the group consisting of C₁-C₂₂ alkyl, C₃-C₂₂ alkenyl, C₃-C₂₂ alkynyl, C₇-C₂₂ arylalkyl and C₃-C₂₂ cycloalkyl, wherein one or more hydrogen atoms of the moiety may be replaced by Cl or F and/or up to five carbon atoms may be replaced by atoms or group of atoms selected from O, CO, N, and S;

R2 is a moiety selected from the group consisting of C₆-C₁₈ aryl, C₇-C₂₂ alkylaryl, C₃-C₂₂ cycloalkylaryl, C₇-C₂₂ alkenylaryl and C₇-C₂₂ alkynylaryl, wherein one or more hydrogen atoms of the moiety may be replaced by Cl or F and up to five carbon atoms may be replaced by atoms or group of atoms selected from O, CO, N, and S;

R3 is H, R1, or R2;

R4 is R1 or R2; and

R5 is a chemical linkage to a polymer; and

wherein the compound having an SO₂-NH group is present in an amount of about 0.01% by weight to about 6.0% by weight.

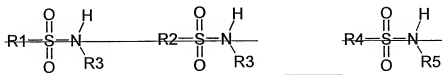
13. (Currently Amended) A method of producing a dental composition comprising the step of mixing
 - (a) an N-alkyl aziridine polyether,
 - (b) a compound selected from the group consisting of p-toluene sulfonic acid N-ethyl amide, o-toluene sulfonic acid N-ethyl amide, and a mixture of o-/p- toluene sulfonic acid N-ethyl amide, having an SO₂-NH group, wherein the compound is represented by at least one of the following formulas:

Serial No.: 10/564,102

Confirmation No.: 7195

Filed: June 19, 2006

For: DENTAL COMPOSITION COMPRISING ETHYLENE IMINE COMPOUNDS AND NON-REACTIVE ACCELERATORS



wherein

R1 is a moiety selected from the group consisting of C₁-C₂₂ alkyl, C₂-C₂₂ alkenyl, C₂-C₂₂ alkynyl, C₇-C₂₂ arylalkyl and C₃-C₂₂ cycloalkyl, wherein one or more hydrogen atoms of the moiety may be replaced by Cl or F and/or up to five carbon atoms may be replaced by atoms or group of atoms selected from O, CO, N, and S;

R2 is a moiety selected from the group consisting of C₆-C₁₈ aryl, C₇-C₂₂ alkylaryl, C₂-C₂₂ cycloalkylaryl, C₇-C₂₂ alkenylaryl and C₇-C₂₂ alkynylaryl, wherein one or more hydrogen atoms of the moiety may be replaced by Cl or F and up to five carbon atoms may be replaced by atoms or group of atoms selected from O, CO, N, and S;

R3 is H, R1, or R2;

R4 is R1 or R2; and

R5 is a chemical linkage to a polymer; and

wherein component (b) is present in an amount of about 0.01% by weight to about 6.0% by weight; and
(c) an initiator.

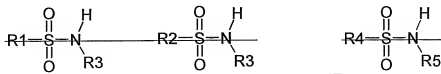
14. (Currently Amended) A method for enhancing the setting speed of a dental composition, comprising a polyether, the method comprising the step of incorporating into the composition a compound selected from the group consisting of p-toluene sulfonic acid N-ethyl amide, o-toluene sulfonic acid N-ethyl amide, and a mixture of o-/p- toluene sulfonic acid N-ethyl amide, having an SO₂-NH group, wherein the compound is represented by at least one of the following formulas:

Serial No.: 10/564,102

Confirmation No.: 7195

Filed: June 19, 2006

For: DENTAL COMPOSITION COMPRISING ETHYLENE IMINE COMPOUNDS AND NON-REACTIVE ACCELERATORS



wherein

R1 is a moiety selected from the group consisting of C₁-C₂₂ alkyl, C₂-C₂₂ alkenyl, C₂-C₂₂ alkynyl, C₇-C₂₂ arylalkyl and C₃-C₂₂ cycloalkyl, wherein one or more hydrogen atoms of the moiety may be replaced by Cl or F and/or up to five carbon atoms may be replaced by atoms or group of atoms selected from O, CO, N, and S;

R2 is a moiety selected from the group consisting of C₆-C₁₈ aryl, C₇-C₂₂ alkylaryl, C₂-C₂₂ cycloalkylaryl, C₇-C₂₂ alkenylaryl and C₇-C₂₂ alkynylaryl, wherein one or more hydrogen atoms of the moiety may be replaced by Cl or F and up to five carbon atoms may be replaced by atoms or group of atoms selected from O, CO, N, and S;

R3 is H, R1, or R2;

R4 is R1 or R2; and

and R5 is a chemical linkage to a polymer; and

wherein the compound having an SO₂NH group is present in an amount of about 0.01% by weight to about 6.0% by weight.

15. (Currently Amended) The dental composition of claim [[1]]28, wherein the composition is a dental impression material.
16. (Cancelled)
17. (Currently Amended) The dental composition of claim [[1]]28, wherein the initiator comprises an a-substituted-alkyl sulfonium salt.

Serial No.: 10/564,102

Confirmation No.: 7195

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18. (Cancelled)
19. (Currently Amended) The kit of claim 11, wherein the initiator comprises an a-substituted alkyl sulfonium salt.
20. (Cancelled)
21. (Currently Amended) The kit of claim 12, wherein the initiator comprises an a-substituted alkyl sulfonium salt.
22. (Cancelled)
23. (Currently Amended) The method of claim 13, wherein the initiator comprises an a substituted-alkyl sulfonium salt.
24. (Cancelled)
25. (Currently Amended) The method of claim 14, wherein the initiator comprises an a substituted-alkyl sulfonium salt.
26. (Currently Amended) The dental composition of claim ~~[[1]]~~28, wherein the Shore Hardness A measured after 6 minutes according to DIN EN ISO 53505 is greater than a value measured for the dental composition without component (b).
27. (Currently Amended) The dental composition of claim 26, wherein the Shore Hardness A measured after 6 minutes according to DIN EN ISO 53505 is more than ~~about~~ 30% greater than the value measured for the dental composition without component (b).

Serial No.: 10/564,102

Confirmation No.: 7195

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28. (Currently Amended) A dental composition comprising:

- (a) an N-alkyl aziridine polyether,
- (b) a compound having an $\text{SO}_2\text{-NH}$ group,

wherein component (b) is selected from the group consisting of ~~benzene-sulfonic acid N-butyl-amide~~, p-toluene sulfonic acid N-ethyl amide, o-toluene sulfonic acid N-ethyl amide, ~~benzene-sulfonic acid-amide~~ and a mixture of o-/p- toluene sulfonic acid N-ethyl amide; and

- (c) an initiator.

29. (Previously Presented) A dental composition comprising:

- (a) an N-alkyl aziridine polyether,
- (b) a compound having an $\text{SO}_2\text{-NH}$ group,

wherein component (b) comprises p-toluene sulfonic acid N-ethyl amide; and

- (c) an initiator.

30-34. (Cancelled)